

**Virginia Electric and Power Company
North Anna Power Station
1022 Haley Drive
Mineral, Virginia 23117**

April 2, 2014

Attention: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Serial No.: 14-103
NAPS: RAP
Docket No.: 50-339
License No.: NPF-7

Dear Sirs:

Pursuant to 10CFR50.73, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Power Station Unit 2.

Report No. 50-339/2014-001-00

This report has been reviewed by the Facility Safety Review Committee and will be forwarded to the Management Safety Review Committee for its review.

Sincerely,



Gerald T. Bischof
Site Vice President
North Anna Power Station

Enclosure

Commitments contained in this letter: None

cc: United States Nuclear Regulatory Commission
Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

NRC Senior Resident Inspector
North Anna Power Station

JE22
MRK



LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

North Anna Power Station

2. DOCKET NUMBER

05000339

3. PAGE

1 OF 3

4. TITLE

Manual Reactor Trip During Feedwater Transient

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	02	2014	2014	- 001	- 00	04	02	2014	FACILITY NAME	DOCKET NUMBER
										05000
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)			
1	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
10. POWER LEVEL	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT

Gerald T. Bischof, Site Vice President

TELEPHONE NUMBER (Include Area Code)

(540) 894-2101

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE)☒ NO15. EXPECTED
SUBMISSION
DATE

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

At 0859 on February 2, 2014, with Unit 2 operating at 100% power, the "A" Main Feedwater (MFW) Pump, 2-FW-P-1A, had a motor lead connection that grounded and caused the power supply breakers for 2-FW-P-1A to trip open. The standby MFW pump, 2-FW-P-1C, auto started, as designed. The Reactor Operator (RO) believed the standby pump did not auto start, since one of the Control Room indicating lights did not illuminate as expected. The RO believed that only one MFW pump was running with two required for operation greater than 70% power. Based on this indication and the perceived loss of MFW, the RO initiated a manual reactor trip as directed in 2-AP-31. Although the remaining control room team members were aware that the standby pump had auto-started, they were unable to intervene in time to prevent the manual trip. Following the manual reactor trip, the unit was stabilized in Mode 3 at normal reactor coolant temperature and pressure. This event was reportable per 10CFR50.72(b)(2)(iv)(B) for actuation of the reactor protection system. Following the reactor trip, the Auxiliary Feedwater pumps automatically started as designed and provided makeup flow to the steam generators. This event was reportable per 10CFR50.72(b)(3)(iv)(A) for actuation of an Engineered Safety Feature (ESF) system. The health and safety of the public were not affected by this event.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
North Anna Power Station Unit 2	05000339	YEAR	SEQUENTIAL NUMBER	REV NO.	2 OF 3
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NARRATIVE**1.0 DESCRIPTION OF THE EVENT**

At 0859 on February 2, 2014, with Unit 2 operating at 100% power, the "A" MFW Pump, 2-FW-P-1A (EIS System – SJ, Component – P), had a motor lead connection that grounded and caused the power supply breakers for 2-FW-P-1A to trip open. The standby MFW pump, 2-FW-P-1C, auto started, as designed. The operating crew entered the abnormal procedure for Loss of Main Feedwater, 2-AP-31. The RO believed that one of the two tandem motors of the standby pump did not auto start, since one of the Control Room indicating lights did not illuminate as expected. The RO believed only one MFW pump was running with two required for operation greater than 70% power. Based on this indication and the perceived loss of MFW, the RO initiated a manual reactor trip as directed in 2-AP-31. Although the remaining control room team members were aware that the standby pump had auto-started, they were unable to intervene in time to prevent the manual trip. A 4-hour report per 10CFR50.72(b)(2)(iv)(B) was made at 1101 hours on February 2, 2014 for manual actuation of the reactor protection system.

Following the reactor trip, all control rods fully inserted into the core and the unit was stabilized in Mode 3 at normal reactor coolant system temperature and pressure. The Auxiliary Feedwater (AFW) pumps (EIS System – BA, Component – P) automatically started, as designed, following the reactor trip and provided makeup flow to the steam generators (EIS System – AB, Component – SG). Steam generator levels were returned to normal operating level and the AFW pumps were returned to the normal, standby automatic alignment. An 8-hour report per 10CFR50.72(b)(3)(iv)(A) was made at 1101 hours on February 2, 2014 for automatic actuation of an ESF system.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

No significant safety consequences resulted from this event because the reactor was placed in a safe condition by the RO. Ultimately there was adequate feed water and 2-FW-P-1C auto started so the unit could have remained at 100 percent power with 2-FW-P-1A tripped. The health and safety of the public were not affected by this event.

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
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NARRATIVE

3.0 CAUSE

The root cause of this event is that the RO did not use diverse indications for determining if MFW Pump 2-FW-P-1C was running. Thus, the Response Not Obtained (RNO) step of 2-AP-31 was performed to trip the reactor. A contributing cause was that the Supervisor did not oversee performance of the Immediate Operator Actions (IOAs) by the RO in accordance with Operations Department standards.

4.0 IMMEDIATE CORRECTIVE ACTION(S)

The license qualification for the RO was administratively suspended pending further investigation of the event.

5.0 ADDITIONAL CORRECTIVE ACTIONS

An improvement plan will be implemented for the Supervisor to enhance oversight of control room performance. Additional corrective actions are being tracked to completion by the root cause evaluation.

6.0 ACTIONS TO PREVENT RECURRENCE

A remediation plan will be developed and implemented for the RO that addresses, at a minimum, the lapses in individual performance that occurred during this event.

7.0 SIMILAR EVENTS

No similar events have occurred at North Anna Power Station.

8.0 ADDITIONAL INFORMATION

Unit 1 continued operating in Mode 1, 100 percent power during this event.